

**JOINT POWER AGREEMENTS, A REGIONAL DELIVERY OPTION  
FOR  
FIRE RESCUE SERVICE IN BROWARD COUNTY, FLORIDA**

**STRATEGIC MANAGEMENT OF CHANGE**

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## Abstract

Fire Rescue Services in Broward County are provided by twenty-five (25) independent fire rescue agencies. These agencies employ more than twenty-five hundred (2500) employees and operate out of 96 stations with three more stations under construction. The total annual expenditure for fire rescue service during fiscal year 1998 was \$193,716,713.00. While independent in character, the agencies are interdependent upon each other operationally. Twelve (12) departments are unable to provide a full first alarm assignment without the assistance of adjoining jurisdictions.

This fragmented “patch work” delivery system led to significant duplication of services and inefficient utilization of resources. The system did not allow for closest unit response and some stations are located in close proximity to others. Service levels and medical protocols varied greatly depending on jurisdiction. Mandated annexations of unincorporated areas were further fragmenting service levels and creating financial burdens on many municipalities. These changes forced many departments to reevaluate and modify their service delivery.

The purpose of this research paper was to examine published articles on the regional delivery of fire rescue services, specifically via joint power agreements. Examples of the prior utilization of regionalization were reviewed to see if the concept had been used successfully for fire rescue services. Local governmental records were evaluated to identify the potential benefits from utilization of regional service delivery in Broward County. A combination of the historical, descriptive, and evaluative research methods were used to answer the following questions.

- 1) What are Joint Power Agreements?

- 2) Does Florida law allow for the use of Joint Power Agreements?
- 3) Have Joint Power Agreements been used successfully in the Fire Service?
- 4) What are the potential benefits of using Joint Power Agreements to provide Fire Rescue Services in Broward County?

Published articles, case histories, and local governmental documents on the delivery of fire rescue services were evaluated and a definition of Joint Power Agreements was established. Joint Power Agreements are interlocal agreements between two or more public bodies. The bodies consolidate resources to save money or improve efficiency in the delivery of a specific service or governmental function. Further review showed that the Florida Interlocal Cooperation Act of 1969 allowed local governments to cooperate on a basis of mutual advantage. Numerous examples of the regional delivery of fire rescue services throughout the United States were evaluated. The current methodology of fire rescue delivery within Broward County was identified and potential improvements in service delivery were postulated.

Based on the finding of this research project it was recommended that further efforts be spent to continue the evaluation of the benefits of the regional delivery of fire rescue service. It was recommended that a bipartisan committee be established representing both municipal and county fire interests. This structure would eliminate the misconception of “ulterior motives” as the reason for an interest in regionalization. It was further recommended that several subdistricts be established to test the validity of the benefits of regionalization. If successful those “pilot project” subdistricts should be combined along with the remaining agencies into a county-wide cooperative fire rescue system. This will provide the most efficient and cost effective service delivery option available.

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## Introduction

During the Strategic Management of Change course taught at the National Fire Academy (NFA) in May 1998, the topic of organizational change was discussed in great detail. The ability to analyze the need for change, plan for its implementation, and evaluate its success were stressed. Several methods for change were discussed along with the specific advantages of each. One of these change methods was re-engineering. Re-engineering is useful when organizations are at risk or require a radical system-wide change. This change methodology has aggressive targets to meet the needs of the customers and is focused on outcomes. This process, while originally designed for business, can also be applied to the Fire Service.

Broward County is a mostly urban community located in south Florida. It encompasses an area of 1,197 square miles and is home to some 1,400,000 residents. Fire Rescue Services in Broward County are provided by twenty-five (25) independent fire rescue agencies. These agencies employ more than 2,500 personnel and operate out of 96 fire rescue stations with three more stations under construction. The total annual fire rescue expenditure in Broward County in fiscal year 1998 was \$193,716,713.00.

This fragmented “patch work” delivery system leads to significant duplication of services and inefficient utilization of resources. It does not allow for closest unit response because it recognizes jurisdictional boundaries. Further, service levels and medical protocols vary greatly depending on where you are located in the county. Mandated annexations of unincorporated areas are further fragmenting service levels and creating a financial burden on many of the municipalities. These service

area changes are forcing many agencies to modify their service delivery plans. This is the time for a re-evaluation of the service delivery system as a whole and an opportunity to develop a better system for the delivery of fire rescue services. This potential for radical change and improvement in Fire Rescue Services must be seized if we are to meet the increasing service demands of the citizens at a reasonable cost.

The purpose of this research paper is to examine published articles on the regional delivery of fire rescue services and joint power agreements, examples of prior utilization of joint power agreements in fire rescue service, independent governmental studies on the delivery of fire protection, and local governmental records to determine if regional delivery by the use of Joint Powers Agreements (JPA) will provide a more effective and cost efficient Fire Rescue Service for Broward County. A combination of the historical, descriptive, and evaluative research methods will be used to answer the following research questions:

- 1) What are Joint Power Agreements?
- 2) Does Florida law allow for the use of Joint Power Agreements?
- 3) Have Joint Power Agreements been used successfully in the Fire Service?
- 4) What are the potential benefits of using Joint Power Agreements to provide Fire Rescue Services in Broward County?

### Background and Significance

The Broward County Legislative Delegation's Ad Hoc Committee on Annexation Policy

recommended the annexation of all remaining unincorporated areas of Broward County by the year 2010. In response to this recommendation, eight municipalities and three citizen groups submitted proposals for consideration during the 1998 legislative session. These submittals included both voluntary annexation petitions and special act requests. By rapidly changing the existing fire rescue service delivery system, this annexation policy is helping to redefine Fire Rescue Service in Broward County.

Fire protection and emergency medical services throughout Broward County are interdependent and interconnected geographically. As a largely urban community it is often impossible to identify municipal boundaries. Cities simply blend together into a metropolitan environment. With twenty-five (25) fire rescue departments, more than any county in Florida, operating in an area of 1,197 square miles, many agencies utilize “automatic aid” and “mutual aid” as tools to protect their citizens. Twelve (12) agencies cannot provide a full first alarm assignment without assistance from adjoining jurisdictions. Changes in primary service areas and the associated changes in revenues from fire and emergency medical assessments are forcing adjustments of the missions of many Broward County fire rescue agencies. The very existence of some departments is at risk. Even the largest fire rescue agency in the county, Broward County Fire Rescue, is having to evaluate and modify its service delivery options. Annexation and reduced revenue are making it harder and more costly to provide services to the remaining unincorporated pockets of the County. Changes in service delivery are necessary if we are to remain a vital component in the county-wide fire rescue system. These potential changes will have direct consequences on many of the surrounding communities in addition to Broward County Fire Rescue.

Specialty services such as Broward County's Hazardous Materials and Technical Rescue Teams may be at jeopardy. Other county-wide services such as Air Rescue, the cooperative purchasing through the Logistics Branch, and coordinated dispatch services through the Communications Branch could also be threatened if a regional base for these services is not fully developed. This period of forced change has presented us with the opportunity to reevaluate the Fire Rescue Services delivered in Broward County. By looking at the "big picture" instead of our own "special interests" the fire rescue agencies within Broward County may be able to work together to build a better system.

#### Literature Review

Research in the Learning Resource Center at the National Educational Training Center / National Fire Academy and the main branch of the Broward County Library yielded a number of articles and Executive Fire Officer Program (EFO) research studies regarding the regional delivery of fire rescue services and joint power agreements. During review of these articles substantial information was found on the history of regional service delivery and its application to fire rescue service.

The history showed that the concept of strategic alliances and cooperative efforts were not new. "A study conducted by the International City Manager's Association (ICMA) in 1957 indicated that approximately 60 percent of the cities in the country provided service beyond their boundaries" (Johnson, 1997). This finding indicates that the delivery of fire rescue service is not limited to jurisdictional boundaries and raises the question of delivery on at a larger scope.



The delivery of fire service in America was further studied when in February 1960, key fire service leaders of the United States met in Racine, Wisconsin under the auspices of the “Johnson Foundation”. The purpose of this committee was to develop an understanding of the fire problem in America and to determine the steps to be taken in achieving a solution. Statement number twelve (12) of the final report, issued at the 1966 Wingspread Conference on Fire Service Administration Education and Research read as follows:

It is economically unfeasible for any single government jurisdiction to equip and man itself with sufficient forces to cope with the maximum situation with which it may be faced. The lack of understanding of this principle has caused many communities to be caught short of fire suppression resources. As a result catastrophes have not been minimized as fully as possible. Many local governmental jurisdictions find themselves, in too many cases, too small to be large and too large to be small. As a result individual communities cannot do some of the things which can be done if the economic base for the service involved is enlarged. (Picard, 1975).

The report further stated that “Many independent fire departments find themselves either struggling with or unable to cope with the financial burden of providing fire protection at desired levels.” (Johnson, 1997). These findings further indicate that the adequate delivery of fire rescue services may be difficult, if possible, at the municipal level.

The ICMA Future Visions Consortium Report stated that “increasingly, local governments face problems that cannot be addressed by single jurisdictions.” “Managing in the future will involve more regional problem solving and less distinction between the public and private sectors.” The report found that “26 percent of the local governments that responded would like to receive information on

regionalism and cooperation.” (ICMA, 1992). This finding indicates that regional services are gaining popularity as a means of delivering service throughout the United States.

Further literature review revealed that the concept of consolidated fire protection was recommended for Broward County as early as September 1983. A feasibility study for the consolidation of essential services in Broward County was conducted by Carl Holmes and Associates on behalf of the Broward County Commission. That study of fire protection in Broward County found that “the advantages of consolidation are many in the improvement and cost effectiveness of operations in administration, communications, fire prevention, training, and equipment purchase and maintenance.” “Preliminary review of the data provided indicates that there is indeed the potential . . . for enhancing service to the citizenry both qualitatively and quantitatively and for either reducing costs or the expending of funds in a more efficient manner.” The report made five recommendations all of which encouraged “Functional consolidation . . . with the sharing of support services.” (Holmes, 1983).

While addressing the issue of the need for regional delivery of service, these articles failed to identify the best approach for its implementation. Bernard Hillenbrand, Executive Director of the National Association of Counties stated in the publication, A Guide for Multi jurisdictional Fire Protection Planning, that “while fire protection is traditionally and properly a local responsibility, many of the operations are more effective with interlocal coordination.” “County-wide coordination of emergency services is the common sense approach to the protection of lives and property within our local communities.” (NAC, 1993). This publication presents the idea that interlocal agreements are the path to success that we should follow.

Interlocal agreements “provide a flexible way for participating jurisdictions to pool resources or

consolidate services without threatening local government autonomy or authority.” (Baltz, 1981). There are two basic types of interlocal agreements, contracts and joint agreements. Contracts are used when jurisdictions agree to provide a service to another for a set fee. Joint agreements include the fire service standard of mutual aid as well as joint power agreements. A joint power agreement is a partial consolidation of functions among two or more jurisdictions. It can be further expanded to create a joint power authority agreement where a completely separate organization is established to provide a service on behalf of the participating jurisdictions. “Joint arrangements are the basic tools of emergency management that serve to reduce fragmentation, formalize intergovernmental relations, and establish procedures for all activities.” (Baltz, 1981).

The State of Florida set the stage for regional services when The Florida Interlocal Cooperation Act of 1969 (Florida Statutes 163.01) was enacted to:

permit local governmental units to make the most efficient use of their powers by enabling them to cooperate with other localities on a basis of mutual advantage and thereby to provide services and facilities in a manner . . . that will accord best with geographic, economic, population, and other factors influencing the needs and development of local communities. (FICA, 1969).

Several examples of successful regional fire rescue services can be found in the State of Florida. One of the earliest was Metro-Dade Fire Rescue which was formed in 1966 by the merger of approximately twenty-seven (27) city departments and eleven (11) fire districts. The department has grown to become one of the premier Fire / Rescue departments in the nation and employing more than fifteen hundred (1500) employees. Chief Dave Paulson stated that “consolidations and mergers have considerably benefited our taxpayers. The taxes they pay for fire protection have been lowered and

they received a higher level of service.” (Johnson, 1997). Another example of regionalization was the creation of the Seminole County EMS / Fire Rescue Division in 1974 by the abolishment of six (6) fire districts. Gary Kaiser, Seminole County Manager, expressed the opinion that “creating Seminole County has eliminated duplication.” “It provides service in the shortest amount of time because the city and county fire station locations and response coverages are seamless.” (Johnson, 1997). Perhaps the most famous fire department consolidations in Florida occurred in June 1981 when fourteen (14) fire departments merged to form the Orange County (Florida) Fire Department. Chief James Cragan stated that “the establishment of the Orange County Fire Department has proved to be a great success . . . in terms of cost efficiency.” (Olsen, 1985). Within three years of the merger coverage area increased by twenty-two (22) percent. Orange County improved its level of service without inflating costs to the taxpayers. Insurance costs and the Insurance Services Office’s (ISO) deficiency points decreased. These fire departments proved that synergism works. We can achieve more together than we can alone. If these departments have been successful with the concept of regional delivery of fire rescue services, the same option may have a place in the future of Broward County.

### Procedures

Research for this paper included review of books, magazines, and research papers at the Learning Resource Center (LRC), National Emergency Training Center (NETC), Emmitsburg, Maryland, and the Broward County Main Library, Fort Lauderdale, Florida. Utilizing the LRC and Broward County cataloging systems, numerous annotated bibliographies were evaluated to determine

their application to the research questions:

- 1) What are Joint Power Agreements?
- 2) Does Florida law allow for their use?
- 3) Have Joint Power Agreements been used successfully in the Fire Service?
- 4) What are the potential benefits of using Joint Power Agreements to provide Fire Rescue Services in Broward County?

Further, several local governmental documents were evaluated to determine the current level of fire rescue service being provided in Broward County. Fire Rescue assessment reports on each of the municipalities were reviewed. Since there was no definitive national standard for vehicle staffing and incident response levels found, the reports were compared to a typical Broward County Incident Response. Those incident responses levels are:

ALS Medical Incidents:

1 Medical Unit

1 Engine Company

Working Single-family Structural Fire:

3 Engine Companies

1 Aerial

1 Medical Unit

1 Chief Officer

Working Commercial Structure Fire:

4 Engine Companies

1 Aerial

1 Medical Unit

1 Chief Officer

Additionally, departmental fire rescue service levels were evaluated using the Insurance Services Office's ratings. It was felt that as an unbiased evaluation tool these items created the fairest assessment of fire service delivery. Once the current levels of service were identified, the effects of proposed annexation were evaluated to determine what impact, if any, they had on the current service levels. Conceptual regional service areas were established utilizing existing resources and potential benefits in service delivery and ISO ratings were identified. Personnel levels and budgetary expenses were not reduced in an effort to maintain the status quo. Improvements were based solely on increased resource availability and improved coverage areas.

As a comparison, the specifics of fire rescue service for Dade County, Florida was also reviewed. Fire rescue services in Dade County are provided on a mostly regional basis.

## Results

Regional delivery of fire rescue services and the practice of joint power agreements have been examined extensively in recent years in magazines articles, publications, and numerous research projects completed by EFO students at the National Fire Academy. The facts presented in the periodicals help

to answer the first question postulated in this research project. The first research question of “What are Joint Power Agreements?” is clearly answered in the National Association of Counties Research, Inc. handbook, Applying Interlocal Agreements to Emergency Management. Joint Power Agreements are interlocal agreements between two or more public bodies, with common powers. The bodies agree to consolidate or share resources in an effort to save money or become more efficient in the delivery of a specific service or governmental function. The member bodies mutually manage the combined service or establish a separate entity with powers designated by the parties to run the new service. In addition to any common power to its members’ districts, it may also exercise activities outside of jurisdictional boundaries if the member bodies agree. They serve to reduce fragmentation and improve service delivery.

Review of the Florida State Statutes answered the second research question of “Does Florida law allow for the use of Joint Power Agreements?” The Florida Interlocal Cooperation Act of 1969 (F.S. 163.01) was enacted to permit local governments to cooperate on a basis of mutual advantage. It allows one or more of the parties of the agreement to administer the agreement or for a separate legal or administrative entity to be created to handle that function. Topics ranging from revenue sources to liability concerns are also covered under this Act. The State of Florida clearly does allow the utilization of Joint Power Agreements.

The third research question of “Have Joint Power Agreements been used successfully in the Fire Service?” is answered by many of the publications reviewed as a part of this research. Regional delivery of fire rescue services by the utilization of joint power agreements has been used throughout the United States since the early 1960s. Some successful examples are Metro-Dade Fire Rescue - Florida,

Seminole County EMS / Fire Rescue Division - Florida, Orange County Fire Department - Florida, Santa Clara County Fire Department - California, Central Pierce Fire and Rescue - Washington, Tualatin Valley Fire and Rescue - Oregon, Poudre Fire Authority - Colorado, and Frankfort Fire Department - Illinois. These are but a few of the many examples where the cooperative delivery of fire rescue services on a regional basis has proven beneficial. Joint Power Agreements can be used successfully in the fire rescue service.

The final research question of “What are the potential benefits of using Joint Power Agreements to provide Fire Rescue Services in Broward County?” can best be answered by describing the current level of service delivery in Broward County. Fire rescue service is delivered by 25 fire rescue departments operating from 96 stations with three more stations under construction. The departments range from all volunteer departments to an IAFC metro-size department. This large number of fire rescue agencies, more than any other county in Florida, has lead to duplication of resources and poor resource utilization. Agencies are burdened by jurisdictional boundaries and closest unit response is not allowed. Agency coverage areas range from as little as 1.5 square miles to a high of 843 square miles. Individual station coverage areas are form one to 46 square miles.



Table 1

STATION COVERAGE AREA

Agency	Area (Sq. Mi.)	Number Stations	Area per station
Broward County	843	18	46
Coconut Creek	11.3	2	6
Cooper City	7	2	4
Coral Springs	25	5	5
Dania	13	2	7
Davie	33	4	8
Deerfield Beach	12.3	3	4
Fort Lauderdale	33	12	3
Hallandale	4.4	3	1
Hollywood	28.9	6	5
Lauderdale by the Sea	1.5	1	2
Lauderdale Lakes	4	1	4
Lauderhill	7.5	3	3
Lighthouse Point	2.5	1	3
Margate	9.2	3	3
Miramar	33	3	11

North Lauderdale	4	1	4
Oakland Park	6.9	2	3
Pembroke Park	1.5	1	2
Pembroke Pines	35	5	7
Plantation	22.8	6	4
Pompano Beach	21.5	5	4
Sunrise	22.5	5	5
Tamarac	12	2	6
Wilton Manors	2.5	1	3

There is no standard level of service county-wide and twelve municipalities cannot provide a full first alarm assignment without assistance from adjoining jurisdictions. All departments participate in the county-wide mutual aid plan and many departments utilize cooperative purchasing of fire equipment and medical supplies.

Some agencies provide EMS internally and others contract those services to other providers. ISO ratings range from a Class 1 department to several Class 6 agencies. Sixty (60) percent of the agencies in the county rate at Class 4 or below. While some agencies enjoy an effective service delivery plan, the overall picture of fire rescue service in Broward County is one of inefficiency and inconsistency. Operating budgets run from as little as \$118,403.00 to the highest at \$42,979,240.00. Obviously these agencies do not provide anything close to the same services to their citizenry.

Table 2

INSURANCE SERVICES OFFICE'S RATINGS

Agency	ISO Rating
Broward County	3
Coconut Creek	6
Cooper City	4
Coral Springs	4
Dania	5
Davie	5
Deerfield Beach	3
Fort Lauderdale	3
Hallandale	3
Hollywood	2
Lauderdale by the Sea	4
Lauderdale Lakes	4
Lauderhill	3
Lighthouse Point	4
Margate	3
Miramar	5

North Lauderdale	5
Oakland Park	5
Pembroke Park	6
Pembroke Pines	1
Plantation	3
Pompano Beach	4
Sunrise	3
Tamarac	5
Wilton Manors	4

One of the most important potential benefits of regional delivery is maintaining or reducing costs of operation. This is accomplished because no additional personnel would be needed to operate the combined system. Actually some reductions or redeployment of personnel levels could be recognized by elimination of duplicate services. This elimination of some duplicate services is an additional benefit. Specific support areas that might be considered for consolidation are dispatch services, vehicle and facility maintenance, logistical support, training, fire prevention, and administrative services. The sharing of technical resources and operational expertise will also be an advantage in that all agencies would be able to utilize specialty services without having to fund and train those teams independently. Improved ISO ratings are possible because of higher levels of emergency response and the redeployment of stations and equipment which more adequately meet the needs of the community. Other significant benefits are uniform service levels and reduced response times by closest unit responses.

Comparison of fire service delivery in Dade County, Florida highlighted some advantages of regional fire rescue service delivery. Dade County is our neighboring county and faces many of the same cultural and environmental concerns faced by Broward County. Dade County successfully merged the majority of its fire rescue agencies in 1966. Metro-Dade Fire Rescue has provided service to approximately 63 percent of Dade County since that time. While the size and population base in Dade County is larger than Broward's, they provide fire rescue service with fewer stations. Additionally, they do this with a higher average ISO rating. They also manage to do this at a lower cost per citizen.

Table 3

COMPARISON OF FIRE RESCUE SERVICES

	Dade County	Broward County
Number of Municipalities	31	29
Fire Rescue Agencies	6	25
Total Area	1,945 Sq. Miles	1,197 Sq. Miles
Population	1,990,445	1,400,000
Fire Stations	74	96+

	Dade County	Broward County
Paid Fire Rescue Personnel	2809	2501
Fire Rescue Expenditures	\$272,538,713.00	\$193,716,713.00
Average Cost per Citizen	\$136.92	\$138.37
Average Cost per Station	\$3,682,956.00	\$2,017,882.00
Average ISO Rating	2.33 (2)	3.88 (4)
% Agencies ISO 4 or Better	100%	68%

### Discussion

Bernard F. Hillenbrand, Executive Director of the National Association of Counties, stated that “county-wide coordination of emergency services is the common sense approach to the protection of lives and property within our local communities.” This summation was verified by the results of this research project. Many municipal and county government units have benefited from the establishment of Joint Power Agreements to provide regional services. These services have on many occasions included the delivery of fire rescue service. Many examples have been found to confirm this fact. Regional delivery of fire rescue service is a cost effective and efficient way to meet the increasing needs of our society. Unfortunately, many agencies are still short sighted and only see their specific interests.

Chief Charles H. Rule expressed this opinion in his article on consolidation and regionalization. He stated that “Probably the most promising (approach), yet one that many fire service managers and elected officials see as a threat, is regional or county consolidation of fire services.” This is exactly the problem found in Broward County. While numerous inefficiencies exist, few fire service managers are willing to risk their positions or security to solve the problem. They still feel that their city’s name must be on the truck. The reality is that in today’s mobile society, people only care about service. Regional delivery of fire service by the utilization of Joint Power Agreements is the rational answer to Broward County’s fire rescue problems. By creating a regional fire rescue agency all the citizens of Broward will receive the same level of service at the same costs. This service level will be higher and more cost effective than the current fragmented system.

### Recommendations

It is this writer’s recommendation that the efforts toward establishing a regional fire rescue delivery system be continued. While preliminary efforts have been made in this direction by Broward County Fire Rescue, those efforts have been seen by many municipalities as self-serving. Annexation is decreasing Broward County Fire Rescue’s service area and many people see their efforts at regionalization as simply a way to save jobs. It will do that, but most importantly it is the best way to serve our citizenry. I suggest that a bipartisan committee be established to continue working toward this goal. By removing the pervasive fear of “ulterior motives” we can begin to focus on the issue. That issue is providing quality fire rescue service at a reasonable cost. Several “pilot” subdistricts should be

established utilizing existing resources to demonstrate the benefits of the regional delivery of fire rescue service. When these are successful, a fully integrated cooperative fire rescue service should be established.

Now is the time to move into the future by learning from the past. We have only seen the tip of the iceberg when it comes to mergers and consolidations. Public / private cooperation as well as re-engineering our delivery systems is necessary. In the near future organizations that remain independent may be the exception instead of the rule. We need to change our paradigms and look at the expectations of our customers and not our antiquated ways of providing service.



## References

- Baltz, D. (1981, December). Applying Interlocal Agreements to Emergency Management. Washington, D. C.
- Carl Holmes and Associates. (1983, September). Study of Fire Protection. Oklahoma City, Oklahoma: Holmes, C.
- Florida Interlocal Cooperation Act of 1969, F.S. 163.01, et seq.
- International City / County Management Association. (1992, March). Regional Strategies for Local Government Management. (Volume 24 / Number 3). Washington, D.C.
- Johnson, J. D., and Snook, J. W. (1997). Making the Pieces Fit. West Linn, Oregon: Emergency Services Consulting Group.
- National Association of Counties. (1993). A Guide for Multi-jurisdictional Fire Protection Planning. Washington, D. C.
- Olsen, R. (1985, April). Orange County's Successful Fire Department Merger. Fire Chief Magazine. (pp 64-67).
- Picard, R. C. (1975, July). Provision of Joint Fire Protection. (pp 1-3). Emmitsberg, Maryland: National Fire Academy.